Chesterfield Fire and EMS

Fire and Life Safety Division

FIRE PROTECTION UNDERGROUND

(804) 748-1426

Fax: (804) 768-8766

www.chesterfield.gov/publicsafety/fire/plans.asp

FIRE PROTECTION UNDERGROUND

NFPA –24

Project Name : _____

Project Address : _____

Building Permit # : _____ Date : _____

Code Edition: _____

All supporting documentation, showing items listed below are required for review. The checklist is based on the 1995 Edition.

General (All submissions shall include the following):

☐ A minimum of four copies of shop drawing, and submittal data shall be provided with the permit application permitting evaluation of the system **PRIOR TO** installation. The permit application shall clearly designate the system as being **required** for compliance with Virginia Uniform Statewide Building Code, or installed as an **elective** system at the discretion of the owner.

☐ Name and address of project or tenant where system will be installed, included building permit number with project.

☐ Name, address and telephone number of designer of the fire protection underground.

☐ Plans and calculations shall be in accordance with the latest referenced edition of NFPA 24: " Standard for the Installation of Private Fire Service Mains and Appurtenances referenced in Chapter 35 of the current edition of the BOCA National Building Code."

☐ Plans shall clearly indicate the name of owner and/or occupant, project street address, tenant space designation, the responsible designer's name, address, and telephone number.

☐ Drawings are to be uniform size and drawn to a recognized scale.

☐ Plans shall include a detailed sketch of the vault showing compliance with **Chesterfield County's Water and Sewer Specification and Procedures Manual**, Department of Utilities.

- ☐ **FIR-1 Detail** for 2" diameter pipe and smaller
- ☐ **FIR-2 Detail** for 2" or Smaller Double Check Assembly and Vault
- ☐ **FIR-3 Detail** for 3" or Larger Double Check Assembly and Vault

☐ Plans shall show the routing and size of the **two** electrical conduits from the DCA vault to the building. NOTE: Low voltage signal cable **cannot** be run in a common conduit with AC voltage wiring.

☐ Provide a method of maintaining the DCA vault free of all standing water. The method of maintaining the vault free of standing water shall be one of the following:

- ☐ Sump and drain line to storm sewer or acceptable daylight location.
- ☐ Sump pump and drain line to storm sewer or acceptable daylight location.
- ☐ Engineered drain field, including drawing and calculations.

☐ Show the point of connection and location of Fire Department Connection (FDC). Indicate the location of the check valve and automatic ball drain.

☐ Plans shall show the location of nearest fire hydrant (within 50' of FDC).

☐ Provide a detailed sketch of the Fire Protection Underground Piping from the DCA vault to 1'- 0" above finished floor inside the protected building.

☐ Submitted plans shall indicate the minimum depth of burial for all Fire Protection Underground Piping. The minimum depth of bury shall be 3'-6" measured from the top of the pipe to finished grade in accordance with the recommended depth of cover shown in NFPA-24 and Chesterfield County Department of Utilities.

☐ Submitted plans shall indicate the location of ALL thrust blocks, rodding and restraint devices being used. Thrust blocks shall be installed in accordance with NFPA-24 and the tables listed in this review checklist. Minimum design test pressure for thrust blocks shall be 225 psi . Include thrust block bearing area table(s), thrust block details, water pressure, soil resistance pressure and minimum thrust block concrete requirements in accordance with NFPA 24, see attached thrust block bearing area and details.

☐ Plans shall clearly indicate the method of providing corrosion protection after installation of rods, nuts, bolts, washers, clamps and other restraining devices, except thrust blocks, in accordance with NFPA 24.

☐ Plans shall include a stub-up riser detail for the Fire Protection Underground piping from 5'-0" outside of the building to 1'-0" above finished floor. The detail shall include, but not be limited to the following:

- ☐ Depth of bury
- ☐ Number and size of stub-up riser tie rods.
- ☐ Thrust block, in accordance with attached thrust block tables.
- ☐ Type of pipe and fittings being used.
- ☐ Transition details for connection of dissimilar piping materials. (i.e.-joining methods)

☐ Provide the following manufacturer's product data sheets with the submitted plans required above:

- ☐ Backflow prevention devices to include OS&Y valves and friction loss chart.
- ☐ Tamper switches for OS &Y control valves in vault.
- ☐ Post indicator valves for Fire Protection Underground sectional control.
- ☐ Fire department connection with a minimum of (2) - 2 ½ " NST hose connections
- ☐ Automatic ball drain for the fire department connection piping check valve.
- ☐ Listed check valve for the fire department connection.
- ☐ Sump pump
- ☐ Vault doors
- ☐ Pipe penetration seals at vault (flexible)
- ☐ Pre-fabricated vault construction details.
- ☐ Pipe, fittings and restraint devices, including fire department connection (FDC) piping and fittings.
- ☐ Other _____

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